

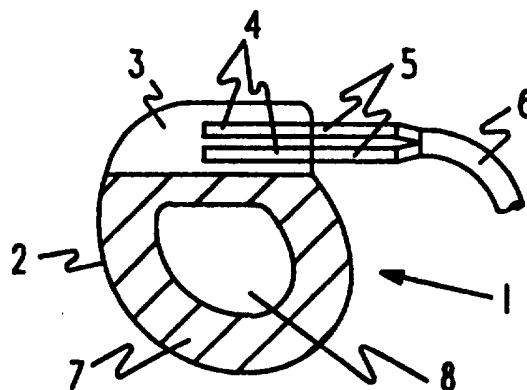


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : A61N 1/05, 1/04	A3	(11) International Publication Number: WO 96/09087 (43) International Publication Date: 28 March 1996 (28.03.96)
(21) International Application Number: PCT/US95/11849 (22) International Filing Date: 19 September 1995 (19.09.95) (30) Priority Data: 08/310,570 22 September 1994 (22.09.94) US (71) Applicant: INTERMEDICS, INC. [US/US]; 4000 Technology Drive, Angleton, TX 77515 (US). (72) Inventors: GARCIA, John; 14 Muirfield Way, Sugarland, TX 77479 (US). ALT, Eckhard; Eichendorff Strasse 52, D-8012 Ottobrun (DE). STOTTS, Lawrence, J.; 327 Linden Lane, Lake Jackson, TX 77566 (US). (74) Agent: MERKLING, John, R.; Sulzermedica USA, Inc., 4000 Technology Drive, Angleton, TX 77515 (US).		(81) Designated States: CA, JP, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 30 May 1996 (30.05.96)

(54) Title: CARDIAC PACEMAKER WITH UNIVERSAL COATING**(57) Abstract**

A pulse generator for a cardiac pacemaker is adapted to be implanted beneath the skin and adjacent the musculus with either of its two sides facing the musculus and its other side facing outwardly of the patient's body, at the option of the implanting surgeon, according to the desired orientation of the receptacle of the header for connection of an electrode lead to the pulse generator, and at the same time avoiding the presence of spurious signals attributable to flexation of the adjacent musculus and twitching attributable to stimulation of the adjacent musculus during operation of the pulse generator when implanted. To that end, the entire surface of the case is coated with an electrically insulative, biocompatible film except along a portion of the edge of the case between its two major sides which is to serve as an anodal contact surface for stimulating and sensing cardiac activity of the patient.



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INTERNATIONAL SEARCH REPORT

 Interna 1 Application No
 PCT/US 95/11849

 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 A61N1/05 A61N1/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 Minimum documentation searched (classification system followed by classification symbols)
 IPC 6 A61N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP,A,0 453 761 (CARDIAC PACEMAKERS) 30 October 1991 see page 1; claim 1 see column 2, line 51 - column 3, line 51; figures 1,3 ---	1,6,11
A	FR,A,2 559 671 (SZWARC) 23 August 1985 see abstract see page 1, line 1 - line 9 see page 2, line 15 - line 24 ---	1,6,11
A	FR,A,2 563 735 (DERVIEUX) 8 November 1985 see abstract ---	1,6,11
A	US,A,4 941 472 (MODEN) 17 July 1990 see abstract; claim 1 -----	6

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

3 April 1996

Date of mailing of the international search report

22.04.96

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 95/11849

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Subject 1 Claims 1 to 5 and 11 to 14 Pulse generator
Subject 2 Claims 6 to 10 Stimulus generator

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 95/11849

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0453761	30-10-91	US-A- 5133353 AU-B- 641224 AU-B- 7354591 CA-A- 2040800 JP-A- 5064666 US-A- 5385574	28-07-92 16-09-93 07-11-91 26-10-91 19-03-93 31-01-95
FR-A-2559671	23-08-85	NONE	
FR-A-2563735	08-11-85	AU-B- 592755 AU-B- 4355585 CA-A- 1241070 DE-A- 3566613 DK-B- 168586 EP-A,B 0214136 WO-A- 8505042 OA-A- 8437 US-A- 4823810	25-01-90 28-11-85 23-08-88 12-01-89 02-05-94 18-03-87 21-11-85 30-06-88 25-04-89
US-A-4941472	17-07-90	NONE	